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MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105041 Amendment 7

DATE: January 9, 2008

SUBJECT: Review of Analytical Data, **Tier 2**

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	Not Provided
SDG No.:	06-1781
Laboratory:	Applied Physics & Chemistry Laboratory (APCL)
Analysis:	1,2,3-Trichloropropane (1,2,3-TCP) and n-Nitrosodimethylamine (NDMA)
Samples:	8 Water Samples (see Case Summary)
Collection Date:	March 15, 2006
Reviewer:	Santiago Lee, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [ ] Yes [X] No

Data Validation Report – **Tier 2**

Case No.: Not Provided
SDG No.: 06-1781
Site: Omega Chem OU2
Laboratory: APCL
Reviewer: Santiago Lee, ESAT/LDC
Date: January 9, 2008

I. CASE SUMMARY

Sample Information

SDG 06-1781 Samples:	OC2-MW23D-W-5-196, OC2-MW23D-W-4-197, OC2-MW15-W-0-198, OC2-MW15-W-1-199, OC2-MW15-W-2-200, OC2-MW13B-W-0-201, OC2-MW13B-W-3-202, and OC2-MW12-W-0-203
Concentration and Matrix:	Low Concentration Water
Analysis:	1,2,3-TCP (GC) and NDMA (GC/MS/MS CI)
Method:	EPA Methods 504.1 and 1625
Collection Date:	March 15, 2006
Sample Receipt Date:	March 15, 2006
Extraction Date:	March 16 through 20, 2006
Analysis Date:	March 15 through 23, 2006

Field QC

Field Blanks (FB):	OC2-MW15-W-2-200
Trip Blanks (TB):	OC2-MW23D-W-4-197
Equipment Blanks (EB):	OC2-MW13B-W-3-202
Background Samples (BG):	Not Provided
Field Duplicates (D1):	OC2-MW15-W-0-198 and OC2-MW15-W-1-199

Laboratory QC

Method Blanks & Associated Samples: Not Provided

Tables

1B: Data Qualifier Definitions for Organic Data Review

Sampling Issues

None.

Additional Comments

As directed by the EPA TOM, a Tier 2 data review was performed (review all QC results and calibrations, minus calculation check). A Table 1A is not requested.

The raw data for NDMA and 1,2,3-TCP analyses are not provided. Only sample results, QC summaries, batch QC reports, and sample chromatograms and quantitation reports are provided for review.

For the NDMA analysis, decafluorotriphenylphosphine (DFTPP) was not analyzed. Since NDMA is analyzed by the chemical ionization (CI) technique, no adverse effect is expected.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;
- ESAT Region 9 Standard Operating Procedure 902, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Pesticide/PCB Data Packages*;
- EPA Method 504.1, *1,2-Dibromoethane (EDB), 1,2-Dibromo-3-chloro-propane (DBCP), and 1,2,3-Trichloropropane (123TCP) in Water by Microextraction and Gas Chromatography*, Revision 1.1, 1995;
- EPA Method 1625C, *Semivolatile Organic Compounds by Isotope dilution GC/MS*, June 1989; and
- *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS and GC Performance	N/A	
3.	Initial Calibration	N/A	
4.	Continuing Calibration	Yes	
5.	Laboratory Blanks	Yes	
6.	Field Blanks (for 1,2,3-TCP only)	Yes	
7.	Surrogate (Method 504.1)	Yes	
8.	Labeled Compound (Method 1625)	No	C
9.	Matrix Spike/Matrix Spike Duplicates	Yes	
10.	Laboratory Control Samples/Duplicates	Yes	
11.	Internal Standard	Yes	
12.	Compound Identification	N/A	
13.	Compound Quantitation	No	A, B
14.	System Performance	N/A	
15.	Field Duplicate Sample Analysis	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following detected results are qualified as estimated and should be flagged "J".

- NDMA in samples OC2-MW15-W-0-198, OC2-MW15-W-1-199, and OC2-MW12-W-0-203 (below the practical quantitation limit)

Results below the practical quantitation limits (PQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

B. The laboratory reported the NDMA sample practical quantitation limit (PQL) as 0.002 ug/L. However, signal to noise (S/N) ratios and areas for NDMA detected results are relatively low. For example, the S/N ratio is only 13 and the area is only 1649 for the concentration of 0.003 ug/L in sample OC2-MW15-W-0-198 (lab sample ID 1781-4; see attached quantitation report). In the reviewer's professional judgment, the sample PQL should be raised to 0.02 ug/L. Non-detected sample results should be reported as 0.02U.

C. For the NDMA analysis, the laboratory did not spike the samples and method blanks with a labeled compound (i.e., surrogate; see Method 1625C Sections 6.8, 10.2.1.3, and 10.2.3.2 and Figure 4). Consequently, the extraction efficiency (surrogate recovery) for NDMA cannot be evaluated. The NDMA-d6 spiked by the laboratory was used as an internal standard.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999.

U The analyte was analyzed for but was not detected above the reported sample quantitation limit.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Print Date: 23 Mar 2006 09:43:24

Target Compound #2 from 1781-4 f=0.001.sms

Sample ID:	1781-4 f=0.001	Last Calibration:	2/21/2006 1:18 PM
Acquisition Date:	3/23/2006 2:21 AM	Calculation Date:	3/23/2006 9:43 AM
Method:	c:\... \ndma005.mth	Vial:	32
Volume:	3.0000	Multiplier:	1.000000
Data File:	c:\data\2006\06g1380\1781-4 f=0.001.sms		

Compound Information

Peak Name: N-Nitrosodimethylamine
Result Index: 2 Compound Number: 2 CAS Number: 62-75-9 Identified

Identification

Parameter	Specification	Actual	Status
Search Type	Retention Time		
Retention Time	6.385 +/- 0.300	6.432 min.	Pass
Match Result		N/A	

Integration and Quantitation

Parameter	Specification	Actual	Status
Quan Ions	75		
IS Peak Name	NDMA-D6		
Calibration Equation	Linear, Force, None	y = +0.7286x	
S/N Ratio		13	
Peak Detection	Normal		
Slope Sensitivity	20		
Peak Width	20.00 sec	4.9 sec	
Baseline Type	Normal		
Tangent Percent	10%		
Area	>=100	1649	Pass
Height		316	
Amount	>= 0.000 ppb	3.396 ppb	Pass